Table 1 Pre-Morbid Psychiatric and Cardiovascular History

Variable	ABS (n = 25)	STEMI (n = 25)	General Control Subjects (n = 50)
Anxiety	14 (56%)	3 (12%)*	9 (18%)*
Depression	12 (48%)	7 (28%)	11 (22%)
Anxiety or depression	17 (68%)	9 (36%)†	15 (30%)*
Substance abuse	5 (20%)	2 (8%)	3 (6%)
History of emotional or physical abuse	4 (16%)	0 (0%)†	1 (2%)†
Total psychiatric diagnoses	1.40 ± 1.35	0.52 ± 0.71*	0.54 ± 0.89*
Family history of anxiety or depression	11 (44%)	1 (4%)*	7 (14%)*
Hypertension	19 (76%)	19 (76%)	30 (60%)
Hyperlipidemia	13 (52%)	18 (72%)	32 (64%)
Diabetes mellitus	4 (16%)	5 (20%)	7 (14%)
Former or current smoking history	18 (72%)	12 (48%)	17 (34%)*
Total cardiovascular risk factors	2.68 ± 1.11	2.52 ± 1.19	1.88 ± 1.27†

Values are n (%) or mean ± SD. *$p < 0.01$ for comparison with patients with ABS. †$p < 0.05$.
ABS = apical ballooning syndrome; STEMI = ST-segment elevation myocardial infarction.

and cardiovascular risk factors were confirmed to play a role in the pathophysiology, it would be important to clearly identify and treat them with a view to preventing recurrence (1,2,5).

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Letters to the Editor

Further Barriers to Conversations About Deactivation of Implantable Cardioverter-Defibrillators

We read the recent report by Goldstein et al. (1) with interest. Their study polled 147 doctors who looked after patients with implantable cardioverter-defibrillators (ICDs) regarding perceived barriers to end-of-life discussions with these patients. Although it illustrates that doctors have a high degree of confidence in their skills in end-of-life discussions with ICD patients, we believe that doctors may in general be substantially overestimating patients' level of understanding of the device.

In the report by Goldstein et al. (1), for instance, 93% of the cardiologists believed that their patients understood why they had an ICD. Most clinicians also believed that patients knew the ICD could be deactivated. Our own data, which is from the patient perspective, suggests a far poorer understanding of their ICDs. We performed a study of 54 patients (mean age 68 years, 79% men) with an ICD in situ for chronic heart failure. None had a combined device for biventricular pacing.

Patients had a generally disappointing understanding of the device. Only 38% of patients were aware that the device could be deactivated without being explanted. Only 65% of patients felt they understood the device as well as they would like to in order to make decisions. In fact, although 85% of patients understood that the device administered a shock, only 65% of patients understood that function of the device was solely to prevent sudden cardiac death rather than to improve symptoms.

Toward the end of the life of a patient with heart failure, the device can deliver painful and frightening shocks. Timely consideration and discussion of deactivation may allow this period to be more peaceful and natural.

However, if the patient does not understand how the device works, and the doctor does not realize that the patient does not understand, how can such a discussion be effective?

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Reply

We thank Dr. Raphael and colleagues for their interest in our report (1). The investigators report their own findings, which demonstrate that patients with implantable cardioverter-defibrillators have relatively poor understanding of their device as it relates to options for deactivation. Their findings confirm our previous qualitative work with patients as well (2). The investigators point out that if physicians think patients understand options for deactivation, but in reality they do not, then this can be a reason that discussions about deactivation occur so rarely. We are in complete agreement with these investigators and did mention in our original contribution that this apparent incongruity between physician perception of patients' knowledge and what patients' actually understand poses a challenge to communication about deactivation. We thank Dr. Raphael and colleagues for highlighting this important issue in their letter.

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A Closer Look at Incidental Findings on Cardiac Computed Tomography

MacHaalany et al. (1) recently reported that incidental findings (IFs) on computed tomography performed to diagnose coronary artery disease (CAD) are common but do not predict noncardiac death, and investigating them further "is not without cost or risk."

Although we appreciate the detailed analysis of IFs and costs, we believe a significant flaw affects the study design. Drawing conclusions on whether mortality differs between patients with and without IFs becomes statistically unsound if some patients receive potentially lifesaving (or at least life-prolonging) interventions, such as lobectomy for lung carcinoma or chemotherapy for mediastinal lymphoma. In other words, although Kaplan-Meier survival curves show no difference in survival between patients with IFs and those without, any intervention that may prolong survival beyond the reported follow-up time significantly impairs the validity of the analysis.

Moreover, the investigators recognize that an 18-month follow-up time may be inadequate to correctly evaluate indeterminate IFs, as some of them may become significant with a longer follow-up time. We concur, but we also add that an 18-month follow-up time is probably inadequate even for the prognostic evaluation of the smaller number of IFs that were already significant, as they include disorders with a natural course that may be longer than 18 months (2).

Further studies are certainly necessary to clarify whether any benefit lies in further investigating indeterminate findings, but from the point of view of evidence-based medicine, that question cannot be answered by comparing a group of patients with IFs and another group without. A more appropriate study design would exclude patients who already have a clear management pathway set before them (i.e., those without any IFs and those with an immediately significant IF) and randomize the remaining patients with indeterminate IFs to either further investigations or simple follow-up.

As the number of procedures increases, invasive cardiologists increasingly will be called to acquire sufficient preparation to consider the global significance of imaging findings, and we appreciate the relevance of the work of MacHaalany et al. (1) in that direction.

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